

REMARKS

The Office Action of December 28, 2009 has been reviewed and the Examiner's comments carefully considered. The present Amendment modifies claim 1 in accordance with the originally-filed specification. No new matter has been added. Accordingly, claims 1 and 2 are pending in this application, and claim 1 is in independent form.

While the Examiner is thanked for considering the claim amendments and supportive comments presented in the previously-filed Amendment of November 30, 2009, the Examiner has maintained the rejection of claims 1 and 2 under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 6,371,328 to Yamada et al. in view of U.S. Publication No. 2003/0026929 to Usui et al. In particular, the Examiner again uses the Yamada patent as the primary reference, alleging that this reference teaches the various features of independent claim 1 of the present application. On page 6 of the Action, the Examiner responds to the comments presented in this previously-filed Amendment, and references column 5, lines 42-47 of the Yamada patent, which are as follows:

Then, air in the space 4 between the inner casing 2 and the outer casing 3 is discharged by a vacuum discharge pump or the like via a through hole 3e of the outer casing 3 and a gas having a low thermal conductivity is charged into the space 4 through the through hole 3e, where the through hole 3e is sealed by the sealing plate 12 thereafter.

In view of the foregoing amendment to claim 1, and the following remarks, Applicants respectfully request that the rejections be withdrawn.

Summary of the Preferred Embodiment

As set forth in independent claim 1, as amended, provided is a heat insulating container including a container body having a bottomed tubular shape and an outer shell that is formed by a foamed resin sheet exhibiting heat shrinkability. The outer shell covers a peripheral wall of the container body with a space created between the peripheral wall and the outer shell. Further, the outer shell includes a tubular portion disposed opposite to the peripheral wall of the container body and an annular portion extending from an opening edge of a lower end of the tubular portion towards the inside of the tubular portion. The annular portion has a distal end and a proximal end, and the distal end is located farther from an inner peripheral surface of the tubular portion than the proximal end.

While Applicants respectfully assert that the previous version of independent claim 1 includes features that are not taught or suggested in the prior art, in an effort to move this case towards allowance, claim 1 has been further modified in the present Amendment. In particular, and as claimed: (1) the annular portion extends in an inclined orientation with respect to the peripheral wall of the tubular portion; and (2) the annular portion is formed so as to have the distal end with a space to a bottom portion of the container body so that air within the space heated by heated food in the container is communicated with the outside via a lower end opening of the tubular portion. As discussed hereinafter, it is clear that such features are not taught or suggested in the prior art of record, including the Yamada patent.

The Cited Prior Art

The Yamada patent is directed to a heat insulating container, and with reference to column 5, lines 42-47, the method of manufacture of the Yamada container requires that, after discharge of gas through space (4) through the hole (3e), the through hole (3e) is sealed by the sealing plate (12). Accordingly, after final manufacture and assembly, gaseous communication through the hole (3e) is not possible during normal operation and use of the container.

Further, the Examiner admits that the Yamada patent does not teach or suggest an outer shell that is formed by a foamed resin sheet having heat shrinkability. However, the Examiner believes that such material is used in a dual-layered insulating container, as taught by the Usui publication. In particular, the Examiner contends that it would have been obvious to one skilled in the art to select a foamed resin sheet having heat shrinkability for the outer shell of a heat insulating container as an obvious matter of design choice.

None of the Cited Prior Art Teach or Suggest the Claimed Heat Insulating Container

On page 6 of the Office Action, the Examiner contends that the Yamada patent discloses “how air in the space is discharged through the hole 3e, and being sealed afterwards. Therefore, it is not only physically possible for gas to be communicated through the hole, but Yamada discloses specific language on how this is to be performed in the normal use of the device.” However, Applicants request that the Examiner review this specific disclosure in the Yamada patent. In short, Applicants agree that this reference discloses that air in a space is discharged through a hole and is then sealed (i.e., “blocked by a

sealing plate 12 adhered to the bottom plate 3a”), but after the sealing process, there can be no further communication of gas through the hole in the normal use of the device.

With respect to the Yamada patent, Applicants realize that gas is filled in a space between a container body and an outer shell where a hole is formed in the bottom of the outer shell to insert the gas therethrough. However, as cited above, the Yamada patent specifically states that this hole is blocked by a sealing plate adhered to the bottom plate. Therefore, the hole (3e) is permanently sealed or “blocked” through the adherence of the bottom plate (3a). Accordingly, the Yamada patent actually teaches away from the present invention.

Again, while Applicants maintain that the previous version of independent claim 1 adequately disclosed the gaseous communication properties between the space and the outside via the lower end opening of the tubular portion, this feature has been clarified through the foregoing Amendment. In particular, and in order to stress the gaseous communication during operation, Applicants have included the following in independent claim 1: “...the annular portion is formed so as to have the distal end with a space to a bottom portion of the container body so that air within the space heated by heated food in the container body is communicated with the outside via a lower end opening of the tubular portion.” (emphasis added).

In particular, and as discussed in the specification of the present application, the heat insulating container of the present invention was conceived with an attempt to increase a heat insulation property by not only providing a container having a double-walled structure with a container body in the outer shell and forming the outer shell by a foamed resin sheet, but also allowing for communication of gas in the space heated when in use through the lower end opening of the tubular portion (outer shell) with the outside environment.

Alternatively, the invention of the Yamada patent is arranged so as to ensure a heat insulation property by filling gas between the outer shell and the container body. The structure of the heat insulating container in the Yamada patent represents an intermediate structure in the manufacturing process, where gas is inserted through the hole (3e) and thereafter this hole (3e) is permanently sealed in the finished product. Therefore, in actual use, the hole (3e) must be sealed or blocked by the sealing plate (12) to maintain the injected gas in the inner area or space. Accordingly, the arrangement of the Yamada patent cannot

even be obtained or rendered functional if a lower end opening is maintained in the finished product (as specifically required in independent claim 1 of the present application). On this basis alone, the presently-claimed invention is wholly distinguishable from the Yamada patent.

Still further, and with respect to the Usui publication, the bottom of the outer shell in the finished product is completely closed. Accordingly, even if combined, the Usui publication does not make up for the deficiencies of the Yamada patent, as it also discloses a shell that is closed in a finished product state. Therefore, the combined teachings of the Yamada patent and the Usui publication do not teach or suggest the heat insulating container set forth in independent claim 1 of the present application, as amended.

In addition, and with respect to the heat insulating container of the present invention, an outer shell covering the container body is formed by a foamed resin sheet having heat shrinkability, i.e., the outer shell is formed by heat shrinking a tubular-shaped foamed resin sheet. Thus, the tubular portion of the outer shell is easily deformed due to the thin wall and the large opening formed in a lower end. Therefore, when the outer shell is held with pressure by a person's hand or the like, the outer shell is generally deformed in the radial direction, with result that the space between the peripheral wall of the container body and the outer shell becomes narrow. If the outer shell is brought into contact with the peripheral wall, the heat insulation property is diminished.

However, the outer shell of the present invention has an annular portion extending from an opening edge of a lower end of the tubular portion, in which a distal end of the annular portion is located farther from an inner peripheral surface of the tubular portion than a proximal end of the annular portion is, and the annular portion is inclined (tapered) with respect to the tubular portion. In this manner, even if the outer shell is formed by the formed resin sheet, the deformation of the outer shell in the radial direction can be prevented. This represents another unique feature that is included in independent claim 1 of the present application, as amended.

However, in the Yamada patent, a member corresponding to the outer shell is formed by a material having a certain stiffness, and in the Usui publication, the bottom portion of the outer shell is completely closed. Therefore, neither the Yamada patent nor the Usui publication discloses that the outer shell is deformed in the radial direction, where the deformation of the outer shell in this direction would deteriorate the heat insulation property.


Accordingly, it is not obvious to form the annular portion of the outer shell extending in an inclined orientation with respect to the tubular body (as set forth in independent claim 1), in view of the combined teachings of the Yamada patent and the Usui publication.

Summary

For the foregoing reasons, independent claim 1 is not anticipated by or rendered obvious over the Yamada patent, the Usui publication, or any of the prior art of record, whether used alone or in combination. There is no hint or suggestion in any of the references cited by the Examiner to combine these references in a manner that would render the invention, as claimed, obvious. Reconsideration of the rejection of independent claim 1 is respectfully requested. Claim 2 depends directly from and adds further limitations to independent claim 1 and is believed to be allowable for at least the reasons discussed hereinabove in connection with independent claim 1. Therefore, reconsideration of the rejection of claim 2 is respectfully requested.

For all of the foregoing reasons, Applicants submit that claims 1 and 2, as amended, are patentable over the cited prior art and in condition for allowance. Reconsideration of the rejections and allowance of pending claims 1 and 2 are respectfully requested. Further, if the Examiner continues to maintain this rejection in view of the above amendments, the undersigned respectfully requests an interview to discuss this case and work with the Examiner to identify patentable subject matter.

Respectfully submitted,
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